

REMARKS

A final Office Action was mailed on September 21, 2006. An Amendment after Final Office Action was timely mailed on December 26, 2006 with a Petition for a one-month extension of time. An Advisory Action was mailed on February, 2007, indicating that the Amendment had been considered and did not place the application in condition for allowance. A Pre-Appeal Brief Request for Review was timely filed on March 21, 2007, together with a Notice of Appeal and a Petition for a three-month extension of time. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on June 6, 2007, indicating that the Panel had determined that the present Application should proceed to Appeal. Applicants timely file this Preliminary Amendment together with a Request for Continued Examination and Petition for One-Month Extension of Time

Reconsideration of the application is respectfully requested.

I. Status of the Claims

Claims 1-19 are pending. With this amendment, Applicants amend claims 1 and 15, and add new claims 20 - 22. No new matter is added. Support for the amendments may be found, for example, with reference to Applicants' specification at page 5, lines 4 - 9 and page 25, lines 7 - 20, and to Applicants' FIG. 8.

II. Allowable Subject Matter

Applicants appreciatively acknowledge the Pre-Appeal Brief Review Panel's indication that claims 3-10 and 14 contain allowable subject matter, and that claims 18 and 19 are allowed.

III. Rejections under 35 U.S.C. § 102

In the final Office Action of September 21, 2006, the Examiner rejected claims 1-2, 11-13 and 15-17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,159,161 to Hodosh. Applicants amend independent claims 1 and 15 to further clarify the nature of their invention, and respectfully traverse this rejection.

In amended independent claim 1, Applicants claim:

1. An electric syringe for injecting a dental anesthetic by pressing a rubber plug of a cartridge filled with an anesthetic, thereby injecting the anesthetic from a needlepoint of a dental needle connected to the cartridge, the electric syringe comprising:

a push member configured to press and move the rubber plug of the cartridge;

a drive motor configured to generate a drive force;

a transmission mechanism part configured to transmit the drive force to the push member; and

a control unit configured to control a moving of the push member by controlling the drive motor,

wherein the control unit controls the drive motor to move the push member to linearly increase an injection speed of the anesthetic at a constant, predetermined rate at the beginning of the injection and until reaching a selected injection speed, and then to move the push member to inject the anesthetic at the selected injection speed without further increase.

(Emphasis added).

Amended independent claim 1 claims an electric syringe for injecting a dental anesthetic by pressing a rubber plug of a cartridge filled with an anesthetic, and thereby injecting the anesthetic from a needlepoint of a dental needle connected to the cartridge. The claimed syringe includes a push member for pressing and moving the rubber plug of the cartridge, a drive motor for generating

a drive force, a transmission mechanism part for transmitting the drive force to the push member, and a control unit for controlling movement of the push member by controlling the drive motor. The control unit controls the drive motor to move the push member to linearly increase an injection speed of the anesthetic at a constant, predetermined rate at the beginning of the injection until reaching a selected injection speed, and then to move the push member to inject the anesthetic at the selected injection speed without further increase (see, e.g., Applicants' FIG. 8).

Hodosh discloses a fluid dispenser for administering an anesthetic that includes a rack member 58 to press and move a piston 16 in a carpule 12 in order to inject an anesthetic from the carpule 12 through a needle 42. A variable speed motor 202 drives the rack member 58 by means of a drive mechanism 204, and under the control of a microprocessor 200. In sharp contrast to Applicants' fluid dispenser of amended independent claim 1, however, Hodosh does not disclose that the microprocessor 200 initially causes the injection speed to linearly increase at a constant, predetermined rate until reaching the selected injection speed.

At column 10, lines 20-24, Hodosh discloses that, after pressing button 208 to begin the flow of anesthetic, "the anesthetic flows slowly [at first] in order to overcome the breakaway force of the piston 16. After 1 to 2 seconds, the microprocessor 200 instructs the motor 202 to drive mechanism 204 at a speed which corresponds to the desired injection pressure."

As described by Hodosh, the interval taken to overcome the breakaway force of the piston (i.e., "1 to 2 seconds") is brief, after which the microprocessor commands the motor to immediately proceed to drive the mechanism to produce an injection speed that will produce the desired injection

pressure. Hodosh nowhere indicates that the motor is specifically controlled during the interval to overcome the breakaway force and/or thereafter to increase speed linearly at a predetermined rate until the speed corresponding to a single desired injection pressure is reached. While Hodosh's motor is capable of delivering a number of different steady-state speeds corresponding to optimal injection pressures for a variety of injection sites (see, e.g., Col. 9: 61 - 67), Applicants' claimed invention in addition provides for further controlling the motor so that the rate of increase of motor speed to reach a steady-state speed is held constant at a predetermined rate that minimizes discomfort to the patient (see, e.g., page 25, lines 7 - 20 of Applicants' specification and FIG. 8).

Accordingly, and for at least these reasons, Applicants submit that the device claimed by Applicants' amended independent claim 1 is not anticipated by Hodosh, and stands in condition for allowance. As amended independent claim 15 essentially includes the same elements argued above as patentably distinguishing amended independent claim 1 over Hodosh, Applicants reapply these arguments with reference to amended independent claim 15 and submit that amended independent claim 15 also stands in condition for allowance.

In summary, for at least the above-argued reasons, Applicants submit that amended independent claims 1 and 15 are allowable. As claims 2, 11-13 and 16-17 each depend from one of allowable independent claims 1 and 15, Applicants further submit that dependent claims 2, 11-13 and 16-17 are also allowable for at least this reason. Therefore, Applicants respectfully request that the rejection of claims 1-2, 11-13 and 15-17 under 35 U.S.C. § 102(b) be withdrawn.

III. New Claims

Applicants add new claims 20 - 22, and submits that each of these claims finds support in Applicants' original application, for example, with reference to FIG. 8. As each of new claims 20 - 22 depends either directly or indirectly from allowable independent claim 1, Applicants submit that new claims 20 - 22 are also allowable for at least this reason.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The Examiner is respectfully requested to contact the undersigned at the telephone number indicated below if the Examiner believes any issue can be resolved through either a Supplemental Response or an Examiner's Amendment.

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Respectfully submitted,

By 

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